J-BOSC TECH EXHIBIT 7.0-032
USAF CCAS ELECTRONIC SECURITY SYSTEM
RESOURCE PROTECTION ALARM SYSTEM
LINE ITEM #100 10/97

CCAS ESS RPAS
7.0-032

Cape Canaveral Air Station

Electronic Security System (ESS)
Resource Protection Alarm System (RPAS)

OCT 1 1997

Organization Level Maintenance

1.0 SCOPE

This Statement of work (SOW) describes the effort to be performed by the Electronic Security System (ESS) maintenance contractor to maintain the Cape Canaveral Air Station (CCAS) ESS and the Resource Protection Alarm System (RPAS). This effort is for total system maintenance including hardware, software, firmware, configuration control and sustaining engineering. This SOW is applicable to the operational ESS and RPAS as well as any new facilities or areas that may be turned over to the government during the life of this contract.

1.1 Background

ESS is providing CCAS with a state-of-the-art security system, far exceeding the detection capability of posted security forces. It was originally programmed for DoD Space Transportation Systems to satisfy National Security Directive 42. The initial contract was awarded to Sygnetron Protection Systems to develop and test eighteen facilities at CCAS and seventeen facilities at VAFB. VAFB Shuttle program was mothballed in 1987 and ESS equipment shipped to CCAS. In November of 1989, eighteen facilities become operational on CCAS. In 1991, action was taken to integrate Expendable Launch Vehicle (ELV) facilities into the existing operational ESS system. In September 1992, a contract was awarded to TRW to upgrade all priority space launch facilities. The TRW contract was allowed to expire in March 1995. A Delivery Order was awarded to Mei Technology in June 95 to complete all remaining facilities, perform software development and sustaining engineering. The system was certified by AFSPC in November 1996.

2.2 System Description

2.2.1 The ESS is a government furnished integrated system consisting of the following subsystems;

Enrollment Subsystem
Entry Control Subsystem
Information Processing Subsystem
Perimeter Intrusion Detection
Alarm Assessment Subsystem
Control and Display
Communications Subsystem
Uninterruptible power supply subsystem

2.2.2 Exhibit A describes the functionality of each subsystems. The subsystems include, but are not limited to, the devices and equipment described in exhibit B.

2.2.3 The RPAS is a SM-1000 advanced J-SIIDS Monitor Station Consisting of:

Central Processor recording and short term storing of all J-SIIDS system events generated by individual control units and for controlling inter-console events.

Display processor for displaying all recorded and stored J-SIIDS system events.

Color graphics display CRT and processor for displaying graphic displays and text displays for each individual control unit (including detachable ASCII keyboard for initial programming purposes).

Front panel display for annunciation individual alarms as they occur and for displaying all alarm point and system status displays.

Front panel keypad for operator interface with the SM-1000 system pertaining to individual alarms and system status displays.

Event printer for recording individual status event changes for each alarm point (sensor, duress, power failure, tamper) conditions (alarm, access, secure) as well as system and individual control unit status conditions (Communications fail, trouble, etc.).

Communications control module for connection of up to 64 individual pairs of telephone (or data) lines connecting to installed individual control units.

1.2.4 The RPAS include, but are not limited to, the devices and equipment described in exhibit C.

2. Security Requirements

2.1 The contractor shall comply with all CCAS security requirements. The contractor shall submit to the Contracting Officer(CO) the names and address of each employee working under this contract ten days prior to the start of work, and fill out questionnaires or other forms as may be required for security purposes, as required by the National Industrial Security Program Operating Manual, DoD 5220.22.M or as directed by the CO.

2.2 Portions of work under this contract are performed in secure areas. All persons requiring access to a secure area shall be subject of a favorable security investigation require for access to that area or, in most cases, will be escorted by government personnel. In the case of escort, 48 hours advance notice to the activity will be required except for emergency or urgent work. Contractor employees shall be free of felony convictions, and prior military service members shall have had honorable discharges.

2.3 The contractor shall maintain a SECRET Facility Clearance.

2.4 Personnel requiring access to Restricted Areas but not classified information will be granted access based upon a favorable Trustworthy National Agency Check (TNAC) performed by the government. The contractor shall submit an SF 86 and SF 85P to the 45SPS/SPA for processing. Upon favorable check the contractor shall request a security badge using AF Form 2586. Personnel requiring access to areas containing classified information or material shall have a SECRET security clearance s approved by DISCO.

2.5 The contractor shall comply with restricted area procedures and instructions, to include proper security clearances. Contractor personnel working in restricted areas, such as payload processing facilities, launch areas, and computer rooms, may be required to sign in and out, display CCAS identification badges, and state the nature of business at the entrance of such areas. All work in restricted areas shall be coordinated with the respective unit or organization area security officer in accordance with 45 SWI 31-101.

3. Objectives

3.1 The ESS and RPAS maintenance contractor shall provide all levels (Organic, Depot and Vender) of hardware, firmware, and software maintenance for CCAS ESS and RPAS. The contractor shall design a maintenance management concept that will assure maximum use of ESS and RPAS and ensure well planned and scheduled preventative maintenance that will provide minimum impact on ESS and RPAS availability. This concept will include maintaining adequate spare, support equipment, technical manuals, strong configuration control process, and providing trained personnel , coupled with a low meantime to repair.

3.2 The contractor shall develop and prepare an Maintenance Management Plan. **(CDRL)**

3.3 The Contractor shall maintain current technical publications, as built system drawings/plans and documentation for all installed ESS and RPAS equipment.

3.4 The contractor shall established a strong configuration control program and prepare a configuration control plan that addressees the four basic tasks; Identification, Control, Status Accounting, and Auditing. **(CDRL)**

3.5 The contractor shall maintain the Software Maintenance Facility (SMF) functionality equivalent of the operational system.

3.6 The contractor shall develop an integrated set of software development standards. The standard shall address all phases of software development and support and the associated activities and methodologies to include configuration management, quality assurance, and logistics. DoD-STD-2167A, DoD-STD-2168, MIL-STD-973, and best commercial practices should be used as guidelines for developing these standards.

3.7 The contractor shall maintain the government furnished Automated Data Processing Equipment associated with ESS. Although most of the maintenance will be accomplished by vendors through maintenance agreements, the contractor shall: See Exhibit D for list of ADPE.

3.7.1 Document equipment failure and unscheduled maintenance and report on resolution and disposition of problem.

3.7.2 Plan, schedule, and implement ADPE maintenance.

3.7.3 Update all baseline drawings to reflect changes to ADPE.

3.7.4 Consider the costs associated with software support, extended warranties, and maintenance agreements.

3.7.5 Develop and prepare an ADPE security plan. This plan must be approved by the government. **(CDRL)**

3.8 The contractor shall implement a quality assurance/Quality control program which clearly defines the objective of quality and advocates prevention of defects, upgrading of equipment as new technologies become cost-effective, and continuous improvement.

3.8.1 The contractor shall develop and prepare an Quality Control Program Plan. **(CDRL)**

3.9 The contractor shall participate, support, evaluate development and operational testing conducted by any external organization to verify and validate the system's integrity.

3.10 The contractor shall conduct an successful functionality test of repaired Intrusion Detection Devices immediately after maintenance. This shall will be verified with security console operators real-time system status.

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3.11 The contractor shall, jointly with installation security ESS management personnel, conduct quarterly testing (walk-downs) of all installed IDS. Security personnel will perform the actual test procedures, maintenance personnel prepare the devices for testing i.e., remove covers, activate tamper switches, etc. Maintenance personnel also performs corrective maintenance procedures on components that fail a particular test.

3.12 For RPAS, the contractor shall conduct alarm test to include all tamper switches, when maintenance is performed, but not less than semi-annually.

3.13 Sustaining engineering is crucial to maintaining the viability of a technology-driven system such as the ESS. The contractor shall endeavor to enhance the operation of the entire ESS system through a sustaining engineering development.

3.14 The ESS and RPAS requires 24 hours-per-day, 7 days-per-week maintenance and periodic maintenance in accordance with AFI 31-101. The contractor shall perform Hardware corrective and preventative maintenance on a five-day, forty-hour per week schedule. After-hour maintenance is performed on a stand-by basis. Response time for corrective maintenance actions during non-duty hours shall be a **maximum** of two hours from time of notification. Maintenance of operational systems will require coordination and concurrence from the CCAS Security Police.

4. Compliance Documents

4.1. AFI 31-101, Volume 1, dated 1 December 1996, The Physical Security Program; AFI 31-101 V1 AFSP C1, 17 July 1995; 45SWI 31-101, 16 October 1996, Cape Canaveral Air Station Physical Security Program. AFI 31-209, The Air Force Resource Protection Program, 10 November 1994; 45SW Supplement 1 to AFI 31-209, 8 March 1996.

4.2 BISS/ESE Security Classification Guide dated 15 Nov 90. Sections III through X.

4.3 AFR 66-14, The Air Force Equipment Maintenance Program

4.4 Contractor prepared Maintenance Management Plan.

4.5 Contractor prepared Configuration Control Plan

4.6 Contractor prepared ADPE Security Plan

4.7 Contractor prepared Quality Control Plan

4.8 Vender supplied O&M manuals for off-the- shelf hardware and software

5.0 Reference Documents

5.1. MIL-STD-973, DoD-STD-2167A, DoD 2168 Software Standard, MIL-STD_100E, Engineering Drawing Practices, DoD-STD-498, Software Development and Documentation.

6.0 Contractor Logistics Support (CLS)

Logistics support to be considered for O&M programming shall consist of maintenance and material control. Functions to be considered as the responsibility of CLS shall be the hardware(material) activities associated with fault identification and repair of system components, and accountable control of all ESS equipment.

6.1 Material Control

Inventory control for ESS support shall consist of aggregating all tools, support equipment, repair parts, and LRUs in a controlled area, while maintaining accountable records for the components' usage, Investment spares shall be considered the LRU items that are field-replaceable. Repair parts which are considered to be expendable when broken can be classified as "consumable spare parts". The contractor shall have a documented, logical inventory control activity to facilitate accurate support of ESS, as well as account for Government property.

6.2 Maintenance Control

The maintenance policies required to control the maintenance activities for the ESS program should not be excessive in scheduling or tracking data. The maintenance program shall consist of two areas, preventative and corrective maintenance. Preventative maintenance (PM) is a scheduled effort which allows the contractor manager to plan work levels on a periodic basis. PM should easily cover a major percentage of the allocated technical resources assigned. Corrective maintenance (CM) activities occur at any time during system operation and cannot be scheduled or planned, except on an annual basis based on equipment reliability data.

7.0 Facilities

The government will provide sufficient floor space to house the contractor. Office space will be provided for the functional responsibilities of program management, administration, sustaining engineering, quality assurance, configuration control, software coding, and maintenance control. Bay areas will be provided for material receiving/shipping, bench testing, and repair, and engineering layouts. Secure storage will be available for government furnished inventory assets, tools and test equipment. Approximately 1700 Sq. Ft. Offices space, approximately 6000 Sq. Ft. Bay area, Approximately 1500 Sq. Ft. secure Storage.

8.0 Equipment

The government will provide four portable two-way radios for maintenance base to field site communications and ESS tools and required support equipment as specified in exhibit E. The contractor shall provide **vehicles** and means for contacting on-call maintenance personnel during non-duty hours.

9.0 Summary of Deliverables

SOW	Deliverable Title	Due Date
3.2	Draft Maintenance Management Plan	90 CD after ATP
	Final Maintenance Management Plan	30 CD after Gov't Comments
3.4	Draft Configuration Control Plan	90 CD after ATP
	Final Configuration Control Plan	30 CD after Gov't Comments
3.7.5	Draft Automated Data Processing Equipment Security Plan	120 CD after ATP
	Final Automated Data Processing Equipment Security Plan	30 CD after Gov't Comments
3.8.1	Draft Quality Assurance/Quality Control Plan	120 CD after ATP
	Final Quality Assurance/Quality Control Plan	30 CD after Gov't Comments
6.1	Physical Equipment Inventory Report	Annually
6.2	Failure Summary and Analysis Report	Semi-Annually

EXHIBIT A

Enrollment Subsystem - Hosted on a Micro Vax 3100 computer. Provides enrollment functions at Pass and ID. Enrolls individuals into ESS data base, Provides report generation capabilities, e.g., EAL's, Special events, etc. Automatically transfers data base updates to Information Processing Subsystem.

Entry Control Subsystem - Controls individual access to area through the use of; Magnetic strip badge, Card Reader and a four-digit personalidentification number.

Information Processing Subsystem - Hosted on Vax 810 Fault-tolerant computer. Performs collection and processing of ESS data; Provides alarm reporting and control signals to the control and display monitors, provides control signals for automatic CCTV call-up/recording for alarms, archives access control and alarm data for report printing, Provides access control for ESS areas, monitors health and status of the ESS.

Perimeter Intrusion Detection - Devices consist of; Southwest microwaves models 300/310 bi-static and 375 mono-static, Adpro 150 PIR, DTR 90/2000 taut wire, Sentrol model 6105 RT PIR, Sentrol model 2097T balanced magnetic switches, Sentrol model 3025 tamper switches, Sentrol Glass Breakage Sensors, G-Line outriggers, Fiber SenSys models M105E and M106E, and Fence Protection System.

Alarm Assessment Subsystem - Allows Central Security Control Alarm Monitors and Operators to visually monitor protected zones. Assessment performed via CCTV. Operator has capability to switch from left to right camera for best assessment or recording. Automatic display of CCTV upon alarm activation and automatic recording of all alarm activities. Operator has ability to manually record any CCTV cameras.

Control and Display - Allows real time monitoring of ESS. Audible and visual annunciation of all alarms, IDT alarm CRT with touch Screen, IDT graphics CRT, Alarm and PTZ monitors, PTZ control, Video switching,VCR control and report printers.

Communications Subsystem - Data transmission is provided over GFE communications networks through the XY facility. Class "B" line supervision from alarm points to RAC. Class "AA" supervision from the RAC to the CPU. Enrollment data encrypted to FS 1027. Video transmission is provided via fiber optics.

Uninterruptible power supply subsystem - Provides commercial loss protection. Fifteen minute UPS with backup generator. Four-hour battery backup for areas without generators.

EXHIBIT B

ESS AREA'S/FACILITIES	44
ESS DEVICES	
MICROWAVE SENSORS	525
PASSIVE INFRARED SENSORS	55
TUATWIRE	21
FENCE PROTECTION SENSOR	49
FIBER SENSYS	34
G-LINE	7
BALANCE MAGNETIC SWITCH	565
GLASS BREAKAGE SENSOR	49
ACTIVE INFRARED SENSORS	42
TAMPERS	2,145
REMOTE ACCESS CONTROLLERS	205
FIXED CAMERA	294
PAN,TILT,ZOOM(PTZ) CAMERA	23
CARD READER	133
CARD READER W/KEY PAD	63
DURESS SWITCH	19
BATTERY BACK-UP (BBU)	26
CRT	18
GENERATOR	12
UNINTERRUPTABLE POWER (UPS)	12
TURNSTILE	41

EXHIBIT C

RPAS SITES EQUIPMENT FACILITIES	30
VINDICATOR	
Data Transmitter	30
Access Manager	28
Keypad	28
Summary Alarm Ckt.	28
SM-1000A Monitor and Control Unit	1
JSIDS Communication Control Module	1
Operator's Keypad	1
Event Printer	1
SENSORS	
Johnson Controls BMS	17
Airtech Curtain Passive Infrared Sensor	7
Airtech Ultrsonic Sensor	21
Ademco Hold-Up Switch W/Ket Reset	15
Ademco Capacitance Proximity Safe Alarm	3
Sentrol Passive Infrared Sensor	6
Sentrol Tamper Switch	8
Transience Single Channel Receiver	3
Transience Hand-Held Transmitter (Portable Duress)	3
Fourdee Balanced Magnetic Switch	97
Barnes Passive Infrared Sensor	4
Foot Pedal Duress Switch	2
Aritech Passive Infrared Sensor	2
Arrowhead Infrared Transmitter/Receiver Sensor	5
Johnson Controls Ultrasonic Sensor	5
DPST Switch for Duress	4
GDE N.C. Push Button For Duress	9
Sentrol Balanced Magnetic Switch	[illegible]

EXHIBIT D

ATESS ADPE		
Supplier	Description	Quantity
DEC	VAXft Model 810 VMS System	2
DEC	VAXft MODEL 810 1 GB DISK DRIVE	TBD
DEC	TK70 Drive w/DSSI Controller in Canister for VAXft	4
DEC	VAXft3000 Ethernet/DSSI Non-Redundant Adaptor	6
DEC	VAX FORTRAN Documentation Kit	2
DEC	VAX FORTRAN, Clusterwide License	2
DEC	VAXset Clusterwide License	2
DEC	VAXset Layered Product Support	1
DEC	VAXCluster Software License	1
DEC	VT420, Text Video Terminal, Dual Session	12
DEC	VAXStation 4000-VLC, 8 MB, 17" Monochrome	4
DEC	VAXstation 4000-VLC, 8 MB Memory	4
DEC	4.0 GB 4MM DAT Tape Drive with Enclosure	2
DEC	CD-ROM Drive	1
DEC	VAXft Model 110 VMS System with 1 GB Drives	1
DEC	VAXft Model 110 Tape Drive	1
DEC	VAXCluster Software License	1
DEC	VAX/VMS TK50 Full Kit	1
DEC	VAX FORTRAN MDDS, 1 Year Updates	1
DEC	VMS DECwindows Motif Documentation Kit	1
DEC	VAX C	1
DEC	VMS SNS VAXSTN 4000-60/VLC Printer, 12 ppm	2
DEC	VMS Update License for VAX 810	6

ATESS ADPE (Continued)		
Supplier	Description	Quantity
DEC	VMS DOCUMENTATION KIT	1
DEC	VMS Mag Tape & Books	1
DEC	VMS Support	6
DEC	VAX FORTRAN Update License for 810	1
DEC	VAX FORTRAN Documentation Kit	1
DEC	VAX FORTRAN Layered Product Support	1
DEC	VAX FORTRAN Books, 1 Year Update Service	1
DEC	VAX DEC CMS Update License for 810	1
DEC	VAX DEC CMS Documentation Kit	1
DEC	VAX DEC CMS Layered Product Support	1
DEC	VAX DEC CMS Books, 1 Year Update Service	1
DEC	VAX DEC MMS Update License for 810	1
DEC	VAX DEC MMS Documentation Kit	1
DEC	VAX DEC MMS Layered Product Support	1
DEC	VAX DEC MMS Books, 1 Year Update Service	1
DEC	Special Update Software License to Current Revs	6
DEC	VMS 9-Track Tape & Documentation Kit	1
DEC	VMS Mag Tape & Books, 1 Year Update Service	1
DEC	VMS Support- 1st System	1
DEC	VMS Support-2-N Systems	5
XYPLEX	Terminal Server	TBD

EXHIBIT E

REQUIRED SUPPORT EQUIPMENT		
Vendor	Part Number	Description
3M Photodyne	1700-0850T	Plug-in Unit, Electronic Test Equipment
	17XTA	Test Set, Fiber Optic Cable
	9XT	Transmitter, Light Signal
Bird Eye	AM-1	Calibrator Set,Frequency
	BE-F-1	Filter Set, Infrared
	BE-IRV-1	Indicator, Infrared
	BE-TT-1	Generator, Reference Signal
COHU	8457201-001	Infrared Filter
	9085501-001	Circuit Card Extender
	CTJ-2	Camera Test Jig
	Model 9600B	TV Picture Monitor
Fluke	910	Multimeter
Hewlett-Packard	Model 3435A with 34112A	Digital Touch Hold Probe Voltmeter
	Model 5383A	Frequency Counter
Kodak	Kodak Wratten Series	Neutral Density Filters
Perimeter Products	FPST-111	Test Set
	TSK	Splicing Kit
SA-ALC	D-1064	Target, Radar
Safeguards Technology	T60-1001C8-1A	Tensiometer, Dial Indicator
Southwest Microwave	RM82	Performance Monitor
Sunex Electronic Supply	N/A	Air Compressor
	3M 8354	Portable Field Service Grounding Kit
	73-6310-10	Video Cable w/BNC Cable 75 Ohm
	N/A	Dry Nitrogen Pressurization Kit

REQUIRED SUPPORT EQUIPMENT (Continued)		
Vendor	Part Number	Description
Meret Optical	501258-7	Fiber Optic Kit
	501446-1	Optimate Optical Continuity Kit
	EXBD-G	Fiber Optic G-Card Extender Card
Sygnetron Protection Systems (ESS Drawings)	AS010D718	Extender Board, Video/Data XFR
	AS010D922	Data Transfer Test Set
	AS012C708	Supervised Line Test Box
	AS014D216	Null Adapter Box
	CA020B085	Shunt Cable, 8-bit I/O
Tektronix	1105	Battery Power Supply
	2246MODA	Oscilloscope
	Model 1730	Waveform Monitor
	Model 455	Oscilloscope
	Model TSG-170A	RS-170 Sync. Generator
(Any Commercial bags)		Static-proof Bags
(Any commercial gage)		Schrader Valve Pressure Gage (0.35 kg/cm2; 5 psi)
(Any high-quality lens)		Test Lens
(Any IBM-compatible PC)		Laptop Computer

EXHIBIT F

DD FORM 1423
CONTRACT DATA REQUIREMENTS LIST